

This species is closely related to *Aleyrodes tracheifer* Quaintance, and runs to this species in the key (Technical Series, No. 8, Div. of Ent., U. S. Dept. Agric.). It differs, however, in that the wax marginal fringe is not as wide, that the marginal wax pores are more even, in the shape of the rim about the vasiform orifice, and in the development of the keel on the dorsum. In *tracheifer* this keel is narrow and of even width throughout, except for certain constrictions which produce an "arrow-shaped" effect anteriorly. In *trachoides* this keel is a mere ridge on the thoracic region, but very much broader on the abdominal regions. The lingula of *tracheifer* is very small and poorly developed as compared with that of *trachoides*.

Described from an abundance of material collected by Prof. P. Cardin, who states, that although extremely abundant (quite coating the under surfaces of leaves affected), no sooty mold (*Meliola*) follows its attack. Prof. Cardin is also authority for the statement that when abundant this species causes the foliage to fall.

EXPLANATION OF PLATE VIII.

Fig. 1. *Aleuriscus cardini*.—Crawling young, dorsal view.

Fig. 2. *A. cardini*.—Pupa case, dorsal view.

Fig. 3. *A. cardini*.—Vasiform orifice.

Fig. 4. *A. cardini*.—*a*, fore wing; *b*, hind wing.

Fig. 5. *A. cardini*.—Antenna.

Fig. 6. *Aleyrodes trachoides*.—Vasiform orifice and rim about same, circles showing location of 7 spines.

Fig. 7. *Aleyrodes trachoides*.—Margin of pupa case, enlarged.

APHID NOTES FROM OREGON.

BY H. F. WILSON, CORVALLIS, OR.

In a general study of the plant lice of Oregon, we have found abundant material in many old and some new species. We are making an effort to clear up the life history of a number of them and the present paper is the first of a series which we hope to get out, giving all stages of as many species as possible.

Illinoia osmaroniae, n. sp.

This quite large aphid is found on the leaves of *Osmaronia cerasiformis* and is quite abundant about Corvallis, Oregon.

May, 1912

Stem-mother.—On March 18, 1911, the stem-mothers of this species, with newly-born young, were plentiful in the just opening leaf buds of the host plant.

General colour light green throughout with legs and antennæ slightly paler green. Body large and robust. Antennæ about two-thirds the length of body and quite slender. Nectaries quite slender and about one-fourth as long as the body. Cauda short and triangular in shape.

Measurements: Length of body, 3.33 mm.; width, 1.8 mm. Length of antennal segments, I, 0.135; II, 0.04; III, 0.7; IV, .33; V, .38; VI, .2; spur, .51 mm.; total length, 2.295 mm. Length of nectaries, .73 mm. Length of cauda, 0.22 mm.

Spring Migrant.—April 25th; what is probably the third generation of this species found abundantly on under side of leaves; numerous young present.

General colour light green; head and thorax orange; antennæ with six segments; spur of sixth as long or longer than third segment; sixth segment and spur dusky and basal two-thirds of third segment also dusky; legs light green except distal end of tibia and tarsi, which are nearly black. Wings hyaline and large. Nectaries long and cylindrical, slightly constricted at tip. Cauda large, slightly turned up and blunt at point. Third antennal segment with from 24 to 28 small, irregularly-placed sensoria, most of them scattering. Antennal tubercles large and distinct, and strongly gibbous; at upper inner edge two bristle-like hairs at highest part. First segment large and strongly gibbous; second segment small in comparison.

Measurements: Length of body, 2.88 mm.; width, 1.22 mm. Length of antennal segments, I, .176; II, .09; III, 1.11; IV, .84; V, .75; VI, .26; spur, 1.11 mm.; total length, 4.336 mm. Length of wing, 5.7 mm.; total expanse, 12.4 mm. Length of nectaries, 1 mm. Length of cauda, .44 mm.

Fall Migrant.—Oct. 11; winged individuals not very common and producing young on leaves of *Osmoronia* about Corvallis.

General colour green with head and thorax orange coloured. This form resembles the previous form entirely, except in the antennæ and size, the fall migrant being slightly smaller, and the third segment of the antennæ bears from 18 to 22 regularly placed round sensoria lying in a straight line along the outer edge.

Oviparous Female.—The egg-laying female is orange-green in colour, and is quite small in comparison with the stem-mother. The legs are a

little lighter in colour than the rest of the body and the antennæ are slightly dusky at tip. Antennæ longer than the body and placed on large tubercles.

Measurements: Length of body, 2.33 mm.; width, 1 mm. Length of antennal segments, I, .11; II, .066; III, .4; IV, .33; V, .38; VI, .154; spur, .82 mm.; total length, 2.26 mm. Length of nectaries, .73 mm. Length of cauda, .33 mm.

Egg.—The eggs are deposited on the shoots at the base and on the under side of the buds. No measurements of the eggs were secured. They are very similar to other species in this group, although smaller than one would expect for the size of the insect. When first deposited they are light greenish yellow and later become deep shining black.

Alate Male.—Collected on underside of leaves November 3rd, 1911. General colour light yellow. Head, thorax, legs and antennæ dusky to black. Two basal segments of antennæ and basal half of femora yellow. Abdomen with six transversal bands broken in half, four in front of base of nectaries and two behind. Cauda of medium length, tapering and blunt at the tip. Antennal tubercles large and very distinct, being slightly gibbous on upper inner edge; first antennal segment large and strongly gibbous on inner side, second segment quite small in comparison. The third, fourth and fifth antennal segments with an irregular row of small widely separated circular sensoria on each segment. They vary from 18 to 26 on each segment.

Measurements: Length of body, 2.66 mm.; width, .9 mm. Length of antennal segments, I, .135; II, .066; III, 1.02; IV, .8; V, .8; VI, .198; spur, 1.29 mm.; total length, 4.299 mm. Length of wing, 5.95 mm. Total wing expanse, 12.85 mm. Length of nectaries, 7 mm. Length of cauda, 3 mm. The penis of this form is easily forced out by a little pressure on the abdomen.

Illinoia macrosiphum, n. sp.

First collected about Corvallis, Oregon, on *Amelanchier alnifolia*, July 4, 1911. Found in small colonies and not very plentiful. General colour whitish yellow. The specific name *macrosiphum* is applied on account of the extremely long nectaries. In the very young these are as long as the body, in the mature specimens they are $\frac{1}{2}$ to $\frac{2}{3}$ the length of the body. An effort was made to secure the winged forms of this species, but none were found excepting the alate male of what is supposed to be the same species collected on rose November 3, 1911, and on *Amelanchier*

bushes the last of September. These last specimens measure in length, from forehead to tip of cauda, 2 mm., while the nectaries measure from base to tip 1.78 mm. Antennæ reaching to tip of nectaries. Comparative lengths of segments can be obtained from measurements. Antennæ except basal segment slender, basal segment very large in proportion to the others. Legs quite long, nectaries large at base and tapering, each long and ensiform.

Measurements: Length of body from forehead to base of cauda, 2 mm.; width, .85 mm. Length of antennal segments, I, .176; II, .09; III, .82; IV, .622; V, .644; VI, .176; spur, 1.29 mm.; total length, 2.818 mm. Length of nectaries, 1.622 mm. Length of cauda, .33 mm.

Oviparous female resembles the viviparous female, except in the colour of the body, which is rosy red.

Alate Male.—What we supposed to be the males of this species were collected on wild rose bushes under *Amelanchier alnifolia*.

General colour green with rosy tint; five transverse bands may be found on the abdomen. These are broken so as to appear like ten spots. Head and thorax dusky. Antennæ except first two segments dusky. Legs with dusky joints and tarsi. Nectaries dusky, cauda rosy coloured. Third segment with numerous small sensoria; fourth with about thirty; fifth with about twenty. A very interesting character of this species is found in three small sensoria on the sixth segment besides those at the base of the spur. One of these may be found at each end of the segment and the third lies midway between.

Measurements: Length of body from forehead to base of cauda, 1.066 mm.; width, .52 mm. Length of wing, 2.71 mm.; width, 1 mm.; total wing expansion, 5.93 mm. Length of antennal segments, I, .11; II, .045; III, .6; IV, .49; V, .58; VI, .135; spur, 1.174 mm.; total length, 2.134 mm. Length of nectaries, .75 mm. Length of cauda, .198 mm.

Myzus rhamni Boyer.

Syn. *Macrosiphum rhamni* Clarke.

This species is very abundant about Corvallis on *Rhamnus purshiana*. The entire development is apparently passed on this plant as they were present throughout the year. I have not seen specimens of Clarke's *Macrosiphum rhamni* and repeated efforts to locate the types, if there are any, were unsuccessful. From the description I am led to believe that the California species is the same as the one found in Oregon, and there

seems little doubt but that the Oregon species is the same as the one described by Boyer.

Stem-mother.—The first stem-mothers were collected on the 23rd of March and at that time they were about full grown.

General colour light green. Antennæ towards tips dusky; distal end of tibiæ and tarsi dusky. In this stage the characters resemble those of *Aphis* more than anything else. The antennæ are stout and measure less than one-half the length of the body. The legs are short and the antennæ and cauda are as in *Aphis*. Antennal tubercles distinct, but not long.

Measurements: Length of body from forehead to tip of cauda, 2.65 mm.; width, 1.30 mm. Length of antennal segments, I, .154; II, .066; III, .33; IV, .242; V, .27; VI, .11; spur, .44 mm.; total length, 1.612 mm. Length of nectaries, .5 mm. Length of cauda, .176 mm.

Viviparous apterous female of the summer generations collected June 4th, 1911, on underside of leaves of tree on college campus; pupa and alate forms also present.

General colour light green or lemon-yellow throughout, but the characters are like those of *Myzus*, and this form is quite distinct from the stem-mothers. The antennæ are quite long and slender and placed on prominent tubercles. First antennal segment strongly gibbous on inner side. Sixth antennal segment and spur almost setaceous in form. For comparative lengths see measurements. Legs rather stout, short and sparsely hairy. Nectaries thick at the base and slightly tapering with a slight inward curve. Cauda medium in length and blunt at the tip.

Measurements: Length of body, 2.5 mm.; width, 1 mm. Length of antennal segments, I, .135; II, .09; III, .778; IV, .55; V, .51; VI, .154; spur, .98 mm.; total length, 3.197 mm. Length of nectaries, .778 mm. Length of cauda, .154 mm.

Spring Migrant.—Collected on underside of leaves June 4th, 1911.

General colour lemon-yellow. Head and thoracic shield light orange. First two antennal segments green, the base of the third green, remainder of antennæ dusky to black. Basal half of nectaries green to dusky, outer half darker to black. Some specimens with an orange spot in the centre of the body just back of the thorax. Antennæ long and slender and placed on prominent tubercles. First segment large and strongly gibbous on the under side. Second segment small. Third segment with about twenty-five nearly circular sensoria of variable sizes and irregularly placed. Frontal tubercle of head quite prominent. Legs long and slender.

Nectaries long, slender and slightly curved in at middle. Cauda of medium length, bluntly pointed.

Measurements : Length of body, 2.48 mm.; width, .95 mm. Total wing expanse, 8 mm.; length of wing, 3.8 mm. Length of antennal segments, I, .15 ; II, .1 ; III, .85 ; IV, .56 ; V, .55 ; VI, .2 ; spur, 1.1 mm.; total length of antennæ, 2.51 mm. Nectaries, .78 mm., and cauda, .15 mm.

Fall Migrant.—This form so nearly resembles the above as to make a second description unnecessary.

Oviparous Females.—Taken on leaves and in the act of oviposition along young shoots, November 1, 1911 ; present until a late frost in November.

General colour green. First two antennal segments and basal half of third and legs, except tarsi, light green, remaining parts of antennæ and tarsi dusky to black. Other characters and measurements taken from specimens mounted in balsam. Antennal tubercles strong and prominent. First antennal segment large, remaining segments long and slender. Antennæ medium length and with decided *Myzus* characters, being slightly curved in and having the constricted tips. The portion of the abdomen back of the nectaries large and extending back nearly to the end of the nectaries. Cauda short and blunt.

Measurements : Length of body, 2.25 mm.; width, 1 mm. Length of antennal segments, I, .135 ; II, .066 ; III, .58 ; IV, .49 ; V, .4 ; VI, .11 ; spur, .55 mm.; total length, 2.331 mm. Length of nectaries, .71 mm.; length of cauda, .11 mm.

Alate Male.—Collected with oviparous females and alate viviparous females on underside of leaves, Nov. 1st and 3rd, 1911.

General colour green. Antennæ with first two segments and base of third light green ; remaining segments, with distal half of femora and tarsi, dusky, other parts of less green. Nectaries light dusky at base, shading into black at tip. Antennæ on prominent tubercles and with first segment large and gibbous. Third and fourth segments with numerous slightly-raised sensoria, fifth with about eight slightly larger sensoria on outer edge and in a row. Wings large and venation regular. Legs long, femora stouter than in alate females. Nectaries shorter than in females, but with *Myzus* characters. Cauda of medium length, not tapering and quite blunt at the tip.

Measurements : Taken from specimens preserved in balsam. Length

of body, 1.174 mm.; width, .4 mm. Length of wing, 2.15 mm.; total wing expansion, 4.60 mm. Length of antennal segments, I, .066; II, .047; III, .44; IV, .34; V, .33; VI, .09; spur, .622 mm.; total length, 1.935 mm. Length of nectaries, .242 mm. Cauda, .11 mm.

Eggs deposited on young twigs about base of buds.

(To be continued.)

NOTES ON SOME NORTH AMERICAN TINEINA.

BY ANNETTE F. BRAUN, UNIVERSITY OF CINCINNATI.

Argyresthia annettella Busck.

Argyresthia annettella Busck, Proc. U. S. Nat. Mus., XXXII, 12, 1907.

The larvæ of this species mine the leaves near the tips of the twigs of the Juniper (*Juniperus communis* L.). The leaf, except at its extreme tip, is reduced to a mere shell, containing a few scattered grains of excrement, as may be seen by holding the twig toward the light. In this manner each larva excavates about four leaves, passing from one to another through the stem. The mines are started in summer, and the larvæ winter within the mines, leaving them to pupate in May. The mined leaves later become discoloured, and ultimately the entire end of the twig dies. Where the miners are abundant, the numerous brownish dead ends of the twigs give evidence of their presence. The cocoon, which is an open meshwork of coarse silk, is attached to the upper side of a leaf near the mine. The imagoes appear during the early part of June.

Although the Juniper is widely distributed around Cincinnati, *A. annettella* seems to occur only in three or four isolated spots, where I have seen as many as 40 or 50 mines upon a single plant about five feet high.

Lithocolletis trinitella Braun.

Lithocolletis trinitella Braun, Ent. News, XIX, 99, 1908; Trans. Am. Ent. Soc., XXXIV, 279, 1908.

Since the original description of this species was published, I have been successful in rearing four specimens from small tent mines on the under side of leaves of Silver Maple (*Acer saccharinum* L.), collected in Clermont Co., Ohio. The mines are extremely small, about 8 mm. long, and much wrinkled at maturity. The pupa is enclosed in a loose web of silk.

The moths, while agreeing in all essential particulars with the types, are somewhat larger, and have a third costal white streak, which is often obscure and entirely unmarginated.

May, 1912